

Setup Tomcat Database Connection Pool

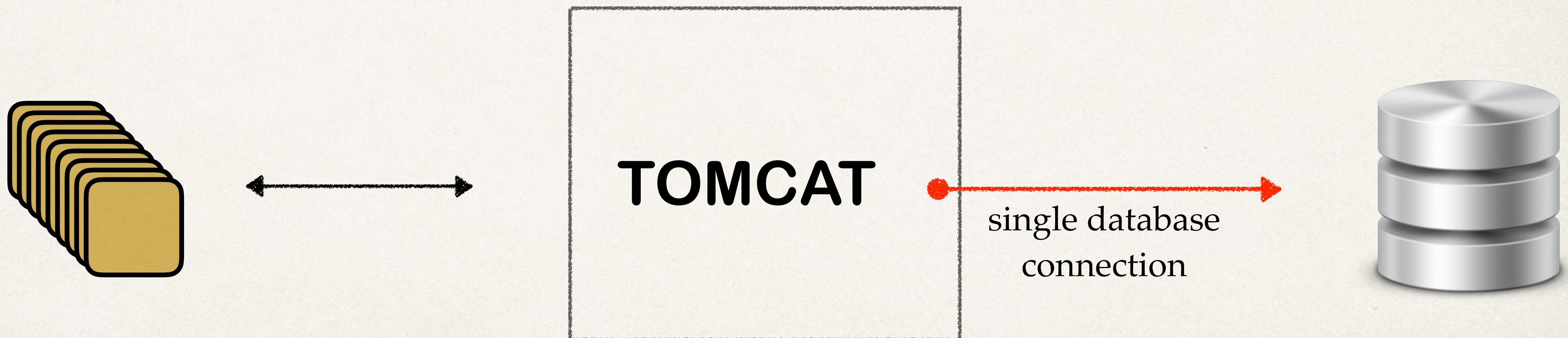


Topics

- ✿ Database Connections in web apps
- ✿ Database Connection Pools
- ✿ Setting up a Tomcat Database Connection Pool
- ✿ Testing the Connection Pool

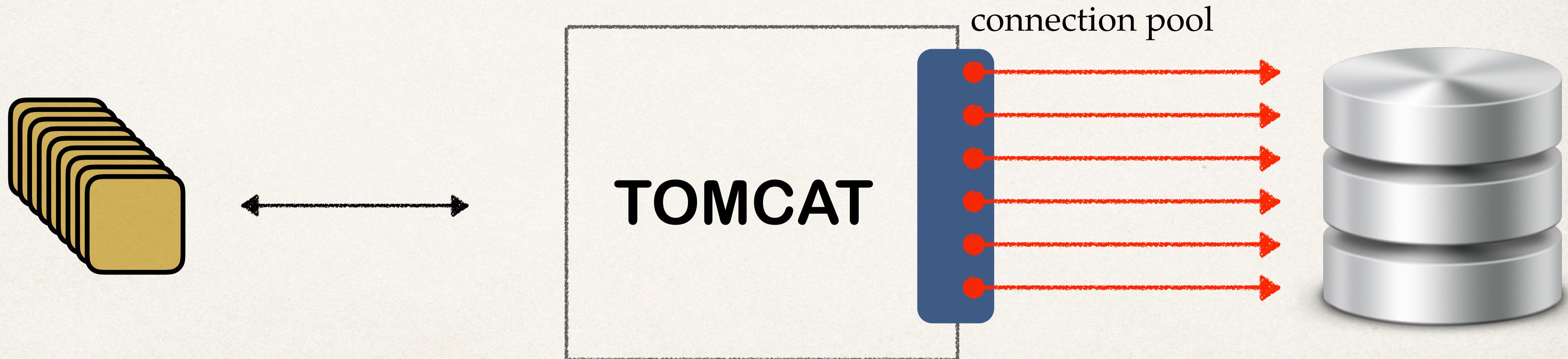
Database Connections in Web Apps

- ❖ You may think you only need a single database connection...
- ❖ Will **not scale** for multiple web users



Database Connection Pools

- ✿ Best practice is to use **database connection pools**
- ✿ Allows your app to scale and handle multiple users quickly



Database Connection in Tomcat

1. Download JDBC Driver JAR file
2. Define connection pool in META-INF/context.xml
3. Define resource reference in WEB-INF/web.xml
4. Get connection pool reference in Java code

Step 1: Download JDBC Driver JAR file

1. MySQL JDBC Driver

- ✿ <http://dev.mysql.com/downloads>

2. Place the JAR file in your app's WEB-INF / lib

Step 2: Define connection pool: context.xml

File: WebContent/META-INF/context.xml

```
<Context>

<Resource name="jdbc/student_tracker"
    auth="Container" type="javax.sql.DataSource"
    maxActive="20" maxIdle="5" maxWait="10000"
    username="demo" password="demo"
    driverClassName="com.mysql.jdbc.Driver"
    url="jdbc:mysql://localhost:3306/student_tracker"/>

</Context>
```

Step 3: Define reference in web.xml

File: WebContent/WEB-INF/web.xml

```
<resource-ref>
    <description>Student Tracker Datasource</description>
    <res-ref-name>jdbc/student_tracker</res-ref-name>
    <res-type>javax.sql.DataSource</res-type>
    <res-auth>Container</res-auth>
</resource-ref>
```

Step 4: Get connection pool in Java code

- ❖ Various options to get connection pool
 - ❖ Option 1: resource injection with Servlets, etc...
 - ❖ Option 2: Java Naming Directory Interface (JNDI)
- ❖ We'll see both examples in this course

Summary

- ✿ Database Connections in web apps
- ✿ Database Connection Pools
- ✿ Setting up a Tomcat Database Connection Pool
- ✿ Testing the Connection Pool

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